

Datasheet: MCA1321GA

BATCH NUMBER 170912

Description:	MOUSE ANTI RAT NEUROFILAMENT 200kDa
Specificity:	NEUROFILAMENT H 200kDa
Other names:	NEUROFILAMENT HEAVY POLYPEPTIDE
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	RT97
Isotype:	IgG1
Quantity:	0.1 mg

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry			▪	
Immunohistology - Frozen	▪			
Immunohistology - Paraffin	▪			1/50 - 1/100
ELISA			▪	
Immunoprecipitation			▪	
Western Blotting			▪	

Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. It is recommended that the user titrates the antibody for use in their own system using appropriate negative/positive controls.

Target Species

Rat

Species Cross Reactivity

Reacts with: Human, Chicken, Pig, Mouse

Based on sequence similarity, is expected to react with: Reptile

N.B. Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.

Product Form

Purified IgG - liquid

Preparation

Purified IgG prepared by hydrophobic interaction chromatography from tissue culture

supernatant

Buffer Solution Phosphate buffered saline

Preservative 0.1% Sodium Azide (NaN₃)
Stabilisers 0.1% Bovine Serum Albumin

Approx. Protein Concentrations IgG concentration 0.1 mg/ml

Immunogen Triton X-100-insoluble rat brain protein.

External Database Links

UniProt:

[P16884](#) [Related reagents](#)

Entrez Gene:

[24587](#) Nefh [Related reagents](#)

Synonyms Nfh

RRID AB_1102789

Specificity **Mouse anti Rat Neurofilament 200kDa antibody, clone RT97** recognizes the 200kDa neurofilament protein in a range of species. Mouse anti Rat Neurofilament 200kDa antibody, clone RT97 stains various tumors including pheochromocytoma, paraganglioma and ganglioneuroblastoma.

Mouse anti Rat Neurofilament 200kDa antibody, clone RT97 also recognizes a phosphorylation dependent epitope on fetal tau, Alzheimer's paired helical filament-tau and on microtubule associated protein 1B (MAP1B) by western blotting, however similar reactivity was not apparent in immunohistochemical studies ([Johnstone et al. 1997](#)).

Immunohistology This product does not require protein digestion pre-treatment of paraffin sections. This product does not require antigen retrieval using heat treatment prior to staining of paraffin sections.

Histology Positive Control Tissue Brain or spinal cord

References

1. Weber, K. *et al.* (1983) Neurofilaments, a subclass of intermediate filaments: structure and expression. [Cold Spring Harb Symp Quant Biol. 48 Pt 2: 717-29.](#)
2. Anderton, B.H. *et al.* (1982) Monoclonal antibodies show that neurofibrillary tangles and neurofilaments share antigenic determinants. [Nature. 298 \(5869\): 84-6.](#)
3. Johnstone, M. *et al.* (1997) The neurofilament antibody RT97 recognises a developmentally regulated phosphorylation epitope on microtubule-associated protein 1B. [J Anat. 191 \(Pt 2\): 229-44.](#)
4. Tonge, D.A. *et al.* (1996) Expression of a developmentally regulated, phosphorylated isoform of microtubule-associated protein 1B in sprouting and regenerating axons in vitro.

[Neuroscience. 73 \(2\): 541-51.](#)

5. Sann, H. *et al.* (1995) RT97: a marker for capsaicin-insensitive sensory endings in the rat skin. [Cell Tissue Res. 282 \(1\): 155-61.](#)
6. Veeranna, *et al.* (2008) Neurofilament tail phosphorylation: identity of the RT-97 phosphoepitope and regulation in neurons by cross-talk among proline-directed kinases. [J Neurochem. 2008 Oct;107\(1\): 35-49.](#)
7. Logan, A. *et al.* (2006) Neurotrophic factor synergy is required for neuronal survival and disinhibited axon regeneration after CNS injury. [Brain. 129: 490-502.](#)
8. Lorber, B. *et al.* (2004) Stimulated regeneration of the crushed adult rat optic nerve correlates with attenuated expression of the protein tyrosine phosphatases RPTPalpha, STEP, and LAR. [Mol Cell Neurosci. 27: 404-16.](#)
9. Reynolds, J. *et al.* (2005) Age-dependent changes in Fibroblast growth factor 2 (FGF-2) expression in mouse cerebellar neurons. [J Cell Mol Med. 9: 398-406.](#)
10. Shin, D.H. *et al.* (2003) The correspondence between the labeling patterns of antibody RT97, neurofilaments, microtubule associated protein 1B and tau varies with cell types and development stages of chicken retina. [Neurosci Lett. 342: 167-70.](#)
11. Connolly ,A.A. *et al.* (1987) A comparative study of a silver stain and monoclonal antibody reactions on Alzheimer's neurofibrillary tangles. [J Neurol Neurosurg Psychiatry. 50: 1221-4.](#)
12. Doering, L.C. (1991) Transplantation of fetal CNS tissue into the peripheral nervous system: a model to study aberrant changes in the neuronal cytoskeleton. [J Neural Transplant Plast. 2: 193-205.](#)
13. McCarthy, P.W. *et al.* (1992) RT97- and calcitonin gene-related peptide-like immunoreactivity in lumbar intervertebral discs and adjacent tissue from the rat. [J Anat. 180: 15-24.](#)
14. Murphy, A. *et al.* (1993) Neurofilament expression in human T lymphocytes. [Immunology. 79: 167-70.](#)
15. Yabe, J.T. *et al.* (2001) Neurofilaments consist of distinct populations that can be distinguished by C-terminal phosphorylation, bundling, and axonal transport rate in growing axonal neurites. [J Neurosci. 21: 2195-205.](#)
16. Wang, S. *et al.* (2000) Progressive optic axon dystrophy and vacuslar changes in rd mice. [Invest Ophthalmol Vis Sci. 41: 537-45.](#)
17. Kuwamura, M. *et al.* (2004) Cerebral ganglioneuroblastoma in a golden retriever dog. [Vet Pathol. 41: 282-4.](#)
18. Rovere, G. *et al.* (2015) Comparison of Retinal Nerve Fiber Layer Thinning and Retinal Ganglion Cell Loss After Optic Nerve Transection in Adult Albino Rats. [Invest Ophthalmol Vis Sci. 56 \(8\): 4487-98.](#)
19. Wang, J. *et al.* (2017) MicroRNA regulation in an animal model of acute ocular hypertension. [Acta Ophthalmol. 95 \(1\): e10-e21.](#)
20. Vidal-Sanz, M. *et al.* (2015) Retinal neurodegeneration in experimental glaucoma. [Prog Brain Res. 220: 1-35.](#)
21. Moutal, A. *et al.* (2020) Differential expression of Cdk5-phosphorylated CRMP2 following a spared nerve injury. [Mol Brain. 13 \(1\): 97.](#)

Storage

Store at +4°C or at -20°C if preferred.

This product should be stored undiluted.

Storage in frost free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

Guarantee	12 months from date of despatch
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Health And Safety Information	Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA1321GA 10041
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Regulatory	For research purposes only
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Related Products

Recommended Secondary Antibodies

Rabbit Anti Mouse IgG (STAR12...)	RPE
Goat Anti Mouse IgG IgA IgM (STAR87...)	HRP
Goat Anti Mouse IgG (STAR76...)	RPE
Goat Anti Mouse IgG (STAR70...)	FITC
Rabbit Anti Mouse IgG (STAR13...)	HRP
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC , HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (STAR77...)	HRP
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos. , DyLight®488 , DyLight®550 , DyLight®650 , DyLight®680 , DyLight®800 , FITC , HRP

North & South America	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com	Worldwide	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com	Europe	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com
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To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M365134:200529'

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